

HKTA 1105  
ISSUE 4  
JUNE 2001

**TECHNICAL INFORMATION**

**FOR**

**FREQUENCY PLANNING**

**OF**

**IN-BUILDING COAXIAL CABLE DISTRIBUTION**

**SYSTEM (IBCCDS)**



**TELECOMMUNICATIONS AUTHORITY**  
**HONG KONG**

## FOREWORD

1. This document intends to provide relevant technical information to facilitate the frequency planning of the In-Building Coaxial Cable Distribution Systems (IBCCDS). To avoid undue interference, designers of the IBCCDS should take into account the radio transmissions in the broadcasting bands from the existing TV and sound broadcasting networks in Hong Kong, as well as other radio transmissions outside the broadcasting bands by other authorised radio transmitters. In this regard, the technical parameters such as the channel allocation, transmitter location, transmitter power of the TV and sound broadcasting services in Hong Kong are given in this document for reference purpose.
2. The Telecommunications Authority (TA) may amend any part of this document as and when he deems necessary without prior notice.
3. While every endeavours have been made to ensure the correctness of the contents of this document as far as possible, the technical information is bound to be modified from time to time, especially for those information maintained by other Administrations. The TA therefore accepts no responsibility for any errors or omissions on the information provided in this document. It is advisable that interested parties should consult their own professional advisers before taking action on any matters to which information provided in this paper may be relevant.
4. The HKTA specifications and other documents issued by the TA can be downloaded directly through the OFTA's Internet Home Page at <http://www.ofa.gov.hk>.
5. If further information is required, please contact:

Chief Telecommunications Engineer (Advisory & Planning)  
Office of the Telecommunications Authority  
29/F, Wu Chung House,  
213 Queen's Road East, Wanchai,  
Hong Kong.

Tel: +852 2961 6662  
Fax: +852 2904 7141

## **CONTENTS**

1. INTRODUCTION
  2. FREQUENCY ALLOCATION PLAN OF THE IBCCDS FOR VARIOUS CATEGORIES OF SERVICES
  3. TECHNICAL INFORMATION OF TERRESTRIAL TV BROADCASTING SERVICE IN HONG KONG
  4. TECHNICAL INFORMATION OF VHF/FM AND MF/AM SOUND BROADCASTING SERVICE IN HONG KONG
  5. TECHNICAL INFORMATION OF OTHER SERVICES OPERATING OUTSIDE THE BROADCASTING BANDS IN HONG KONG
- 
- ANNEX 1 FREQUENCY ALLOCATION PLAN OF THE IBCCDS FOR VARIOUS CATEGORIES OF SERVICES
- ANNEX 2 CHANNELS ALLOCATED FOR TERRESTRIAL TV BROADCASTING SERVICE IN HONG KONG

## **1. INTRODUCTION**

In order to facilitate the frequency planning of the In-Building Coaxial Cable Distribution System (IBCCDS), this document provides the relevant technical information of the following services:-

- i) Frequency Allocation Plan of the IBCCDS for Various Categories of Services;
- ii) Terrestrial TV broadcasting service in Hong Kong;
- iii) VHF/FM and MF/AM sound broadcasting services in Hong Kong;
- iv) Other services operating outside the broadcasting bands in Hong Kong

## **2. FREQUENCY ALLOCATION PLAN OF THE IBCCDS FOR VARIOUS CATEGORIES OF SERVICES**

- 2.1 The frequency allocation plan of the IBCCDS for various telecommunications and broadcasting services as adopted in Hong Kong is given in Annex 1.

## **3. TECHNICAL INFORMATION OF TERRESTRIAL TV BROADCASTING SERVICE IN HONG KONG**

- 3.1 In Hong Kong, the terrestrial TV broadcasting service operates in the UHF band (470-806 MHz). Details of the channel allocation are given in Annex 2.
- 3.2 The allocated TV channels are currently used by the Television Broadcasts Limited (TVB) and Asia Television Limited (ATV) with the main transmitter situated at Temple Hill. For details on the TV transmitter location, channel assignment, effective radiated power and antenna polarisation, please refer to the document "Television Broadcasting Network in Hong Kong" published on OFTA's homepage at "[www.ofta.gov.hk](http://www.ofta.gov.hk)".

## **4. TECHNICAL INFORMATION OF VHF/FM AND MF/AM SOUND BROADCASTING SERVICES IN HONG KONG**

The allocated VHF/FM and MF/AM sound broadcasting channels are currently used by the Hong Kong Commercial Broadcasting Company Limited (HKCB), Metro Broadcast Corporation Limited (MB) and Radio Television Hong Kong (RTHK). For details on the radio transmitter location, channel assignment, effective radiated power and re-broadcasting frequencies in traffic tunnels, please refer to the document "Frequency Table for Sound Broadcasting Services in Hong Kong" published on OFTA's homepage at "[www.ofta.gov.hk](http://www.ofta.gov.hk)".

**5. TECHNICAL INFORMATION OF OTHER SERVICES OPERATING OUTSIDE THE BROADCASTING BANDS IN HONG KONG**

The immunity of the IBCCDS shall be properly designed such that the performance of the television or telecommunications services is not affected by other authorized radio transmitters. The following table gives some typical values of the maximum effective radiated power (ERP) of transmitters operating within the range of 30 - 3000 MHz outside the broadcasting bands:

<b>Frequency Range (MHz)</b>	<b>Typical Values of ERP (W)</b>
30 - 87	25
108 - 279	25
279 - 281	100
281 - 470	25
806 - 960	100
960 - 3000	100

**Frequency Allocation Plan for Various Categories of Services (5-54 MHz)**

<b>Frequency Range</b>	<b>Allocation</b>
5-50 MHz	Upstream signals of TV and telecommunications services
50-53.275 MHz	Guard band
53.275-53.425 MHz	TV (downstream data)
53.425-54 MHz	To be planned

**Frequency Allocation Plan for Various Categories of Services  
(54-470 MHz, Channel Width = 8 MHz)**

Channel Number	Frequency Range	Allocation
C 1	54-62 MHz	TV or telecommunications services
C 2	62-70 MHz	TV or telecommunications services
C 3	70-78 MHz	TV or telecommunications services
C 4	78-86 MHz	To be planned
C 5	86-94 MHz	86-87 MHz (TV or telecommunications services)
C 6	94-102 MHz	87-108 MHz (FM radio)
C 7	102-110 MHz	
C 8	110-118 MHz	To be planned
C 9	118-126 MHz	To be planned
C 10	126-134 MHz	TV or telecommunications services
C 11	134-142 MHz	TV or telecommunications services
C 12	142-150 MHz	TV or telecommunications services
C 13	150-158 MHz	TV or telecommunications services
C 14	158-166 MHz	TV or telecommunications services
C 15	166-174 MHz	To be planned
C 16	174-182 MHz	TV or telecommunications services
C 17	182-190 MHz	TV or telecommunications services
C 18	190-198 MHz	TV or telecommunications services
C 19	198-206 MHz	TV or telecommunications services
C 20	206-214 MHz	TV or telecommunications services
C 21	214-222 MHz	TV or telecommunications services
C 22	222-230 MHz	TV or telecommunications services
C 23	230-238 MHz	TV or telecommunications services
C 24	238-246 MHz	TV or telecommunications services
C 25	246-254 MHz	TV or telecommunications services
C 26	254-262 MHz	TV or telecommunications services
C 27	262-270 MHz	TV or telecommunications services
C 28	270-278 MHz	TV or telecommunications services
C 29	278-286 MHz	To be planned
C 30	286-294 MHz	TV or telecommunications services
C 31	294-302 MHz	TV or telecommunications services
C 32	302-310 MHz	TV or telecommunications services
C 33	310-318 MHz	TV or telecommunications services
C 34	318-326 MHz	TV or telecommunications services
C 35	326-334 MHz	TV or telecommunications services
C 36	334-342 MHz	TV or telecommunications services
C 37	342-350 MHz	TV or telecommunications services
C 38	350-358 MHz	TV or telecommunications services
C 39	358-366 MHz	TV or telecommunications services
C 40	366-374 MHz	TV or telecommunications services
C 41	374-382 MHz	TV or telecommunications services
C 42	382-390 MHz	TV or telecommunications services
C 43	390-398 MHz	TV or telecommunications services
C 44	398-406 MHz	TV or telecommunications services
C 45	406-414 MHz	TV or telecommunications services
C 46	414-422 MHz	TV or telecommunications services
C 47	422-430 MHz	TV or telecommunications services
C 48	430-438 MHz	TV or telecommunications services
C 49	438-446 MHz	Telecommunications services
C 50	446-454 MHz	Telecommunications services
C 51	454-462 MHz	Telecommunications services
C 52	462-470 MHz	TV or telecommunications services

**Frequency Allocation Plan for Various Categories of Services  
(470-862 MHz, Channel Width = 8 MHz)**

Channel Number	Frequency Range	Allocation
E 21	470-478 MHz	TV or telecommunications services
E 22	478-486 MHz	TV or telecommunications services
E 23	486-494 MHz	TV or telecommunications services
E 24	494-502 MHz	TV or telecommunications services
E 25	502-510 MHz	TV or telecommunications services
E 26	510-518 MHz	TV or telecommunications services
E 27	518-526 MHz	TV or telecommunications services
E 28	526-534 MHz	TV or telecommunications services
E 29	534-542 MHz	TV or telecommunications services
E 30	542-550 MHz	TV or telecommunications services
E 31	550-558 MHz	TV or telecommunications services
E 32	558-566 MHz	TV or telecommunications services
E 33	566-574 MHz	TV or telecommunications services
E 34	574-582 MHz	TV or telecommunications services
E 35	582-590 MHz	TV or telecommunications services
E 36	590-598 MHz	TV or telecommunications services
E 37	598-606 MHz	TV or telecommunications services
E 38	606-614 MHz	TV or telecommunications services
E 39	614-622 MHz	TV or telecommunications services
E 40	622-630 MHz	TV or telecommunications services
E 41	630-638 MHz	TV or telecommunications services
E 42	638-646 MHz	TV or telecommunications services
E 43	646-654 MHz	TV or telecommunications services
E 44	654-662 MHz	TV or telecommunications services
E 45	662-670 MHz	TV or telecommunications services
E 46	670-678 MHz	TV or telecommunications services
E 47	678-686 MHz	TV or telecommunications services
E 48	686-694 MHz	TV or telecommunications services
E 49	694-702 MHz	TV or telecommunications services
E 50	702-710 MHz	Telecommunications services
E 51	710-718 MHz	Telecommunications services
E 52	718-726 MHz	Telecommunications services
E 53	726-734 MHz	TV or telecommunications services
E 54	734-742 MHz	TV or telecommunications services
E 55	742-750 MHz	TV or telecommunications services
E 56	750-758 MHz	TV or telecommunications services
E 57	758-766 MHz	TV or telecommunications services
E 58	766-774 MHz	RF outputs of set-top boxes
E 59	774-782 MHz	RF outputs of set-top boxes
E 60	782-790 MHz	RF outputs of set-top boxes
E 61	790-798 MHz	TV or telecommunications services
E 62	798-806 MHz	TV or telecommunications services
E 63	806-814 MHz	TV or telecommunications services
E 64	814-822 MHz	TV or telecommunications services
E 65	822-830 MHz	TV or telecommunications services
E 66	830-838 MHz	TV or telecommunications services
E 67	838-846 MHz	TV or telecommunications services
E 68	846-854 MHz	TV or telecommunications services
E 69	854-862 MHz	TV or telecommunications services

**Frequency Allocation Plan for Upstream and Downstream Channels  
for Carriage of Telecommunications Services**

<b>Downstream Channel (6 MHz Bandwidth)</b>		<b>Status of Allocation</b>
Channel Number	Frequency Range	
D1	150 - 156 MHz	
D2	336 - 342 MHz	Allocated
D3	438 - 444 MHz	Allocated
D4	444 - 450 MHz	Allocated
D5	450 - 456 MHz	Allocated
D6	456 - 462 MHz	Allocated
D7	702 - 708 MHz	
D8	708 - 714 MHz	
D9	714 - 720 MHz	
D10	720 - 726 MHz	Allocated

<b>Upstream Channel (1.6 MHz Bandwidth)</b>		<b>Status of Allocation</b>
Channel Number	Frequency Range	
U1	11 - 16 MHz	
U2	16 - 21 MHz	Allocated
U3	21 - 22.6 MHz	Allocated (21 to 25 MHz)
U4	22.6 - 24.2 MHz	
U5	24.2 - 25.8 MHz	
U6	25.8 - 27.4 MHz	
U7	27.4 - 29 MHz	
U8	29 - 30.6 MHz	Allocated
U9	30.6 - 32.2 MHz	
U10	32.2 - 33.8 MHz	Allocated
U11	33.8 - 35.4 MHz	
U12	35.4 - 37 MHz	Allocated
U13	37 - 38.6 MHz	
U14	38.6 - 40.2 MHz	Allocated
U15	40.2 - 41.8 MHz	

## Channels Allocated for Terrestrial TV Broadcasting Service in Hong Kong

	<b>Channel</b>	<b>Channel Limits (MHz)</b>	<b>Nominal Vision Carrier Frequency (MHz)</b>
<b>Band IV</b>	21	470-478	471.25
	22	478-486	479.25
	23	486-494	487.25
	24	494-502	495.25
	25	502-510	503.25
	26	510-518	511.25
	27	518-526	519.25
	28	526-534	527.25
	29	534-542	535.25
	30	542-550	543.25
	31	550-558	552.25
	32	558-566	559.25
	33	566-574	567.25
	34	574-582	575.25
<b>Band V</b>	38	606-614	607.25
	39	614-622	615.25
	40	622-630	623.25
	41	630-638	631.25
	42	638-646	639.25
	43	646-654	647.25
	44	654-662	655.25
	45	662-670	663.25
	46	670-678	671.25
	47	678-686	679.25
	48	686-694	687.25
	49	694-702	695.25
	50	702-710	703.25
	51	710-718	711.25
	52	718-726	719.25
	53	726-734	727.25
	54	734-742	735.25
	55	742-750	743.25
	56	750-758	751.25
	57	758-766	759.25
	58	766-774	767.25
	59	774-782	775.25
	60	782-790	783.25
	61	790-798	791.25
	62	798-806	799.25